

Faunistic data to the knowledge of the Yunnan butterfly and skipper fauna

(Lepidoptera, Papilioidea and Hesperioidae)

by

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Abstract: Faunistic records of 77 specimens representing 31 species of butterflies (Papilioidea: 27) and skippers (Hesperioidae: 4) collected in two sites of Yunnan (southwestern China) are given.

Zusammenfassung: Über 77 Belegexemplaren, von zwei Lokalitäten aus Yunnan/Südwestchina, die 31 Tagfalterarten zuzuordnen sind (Papilioidea: 27, Hesperioidae: 4), werden faunistische Angaben gemacht.

Introduction: The purpose of the present paper is to record the occurrence of butterfly and skipper species collected in Diqing Tibetan Autonomous Prefecture, Yunnan, Southwestern China. The territory, visited and explored briefly by the second author between May 31 and June 12 in 2008, lies on the border of the Palearctic and Oriental zoogeographical regions. It harbours a fauna which is a mixture of the mentioned two faunal regions.

Although the butterflies of the Palaearctic region is far better known than any other Lepidoptera groups, the discovery of undescribed papilionoid or hesperioid species still is not a rare event in mainland China, especially in material which originates from regions difficult to access or seasons seldomly sampled, or in lesser known groups like lycaenids (e.g. BÁLINT, HSU & JOHNSON, 2000; HUANG & SONG, 2006; HUANG & CHEN 2006).

In this paper we report on a sample of the late spring and early summer aspect at the most southerly border of the Palearctic realm, which lies in Yunnan, where hitherto no Hungarian lepidopterist studied the fauna in situ. Consequently many species collected during this visit turned to be new for the collection of the Hungarian Natural History Museum. Some of them seem to be key species in future research projects which will be carried out on butterfly genera of the world for the studies how characters are distributed in endemic taxa.

Materials and methods

Specimens: Individuals were collected by traditional methods using butterfly net in weather conditions when butterflies were active. After capture specimens were placed and stored in cotton layers, pinned and inventoried subsequently in the Department of Zoology, Hungarian Natural History Museum (HNHM). All the specimens ($n = 77$) possess the locality label with the inscription as given below, plus the inventory label: „Hung. Nat. Hist. Mus.; coll. Lepidoptera; 2008 – 64” The entire material

listed is deposited in the HNHM Lepidoptera collection.

Localities: Deqin = „China, Yunnan, Diqing Tibetan Aut. Pref., 5 km SE of Deqin town, Tashi’ Guesthouse at Rerinkha village, 3356 m, N28°28.484’, E098°53.827’, 5-6. VI. 2008”. Dry deciduous mixed oak forest; the overcast and humid weather conditions were not optimal for butterfly collecting as only one day was favourable sunny and warm.

Tiger Leaping Gorge = „China, Yunnan, Diqing Tibetan Aut. Pref., Tiger Leaping Gorge, SE Slope, at Sean’s Guesthouse, 2000-2500 m, N27°16.113’, E100°10.233’, 9-12. VI. 2008”

Very steep rocky and bushy hillside, at wallnut groove edge; the weather conditions were excellent on two days with clear sky, but it was difficult to work in the location (col. pl. 5: 9).

Fauna list: Specimens were identified using standard literature (SEITZ, 1909, 1932; d’ABRERA, 1990-1993). The recorded species are indicated by their binominal species group names under current usage, and listed according family-, genus and species-group names in alphabetical order. After the species name with its author the indication to the collecting site (and the number of the collected individuals) are given.

Results Papilioidea

Lycaenidae: *Cissatsuma albilinea* (RILEY, 1939) (col. pl. 5: 5, 6): Deqin (1), *Chilades maha* (KOLLAR, 1844); Tiger Leaping Gorge (9), *Everes ion* (LEECH, 1891); Tiger Leaping Gorge (3); *Lampides boeticus* (LINNAEUS, 1767); Tiger Leaping Gorge (1), *Lycaena li* (OBERTHÜR, 1886); Tiger Leaping Gorge (2), *Lycaena ouang* (OBERTHÜR, 1891); Tiger Leaping Gorge (4), *Polyommatus forresti* BALINT, 1993 (col. pl. 5: 7, 8); Deqin (1).

Nymphalidae: *Aglais kashmirensis* (KOLLAR, 1844); Tiger Leaping Gorge (2), *Argyreus hyperbius* (LINNAEUS, 1763); Tiger Leaping Gorge (3), *Clossiana gong* (OBERTHÜR, 1914) (col. pl. 5: 3, 4): Deqin (1), *Hemadra delavayi* (OBERTHÜR, 1891); Tiger Leaping Gorge (1), *Issoria isaea* GRAY, 1852; Tiger Leaping Gorge (1), *Loxerebia sylvicola* (OBERTHÜR, 1886); Tiger Leaping Gorge (5), *Melitaea yuenty* OBERTHÜR, 1888; Tiger Leaping Gorge (2), *Neope dejeani* OBERTHÜR, 1894; Tiger Leaping Gorge (1), *Neptis dejeani* OBERTHÜR, 1894; Tiger Leaping Gorge (3), *Neptis mahendra* MOORE, 1872; Tiger Leaping Gorge (2), *Ypthima iris* LEECH, 1891; Tiger Leaping Gorge (8), *Parantica melaneus* (CRAMER, 1775); Tiger Leaping Gorge (1).

Papilioidea: *Atrophaneura daemonius* (ALPHERAKY, 1895); Tiger Leaping Gorge (3), *Atrophaneura polyeuctes* DOUBLEDAY, 1852; Tiger Leaping Gorge (1), *Papilio xuthus* LINNAEUS, 1760; Tiger Leaping Gorge (1).

Pieridae: *Aporia bernardi* KOIWAYA, 1989 (col. pl. 5: 1, 2): Deqin (1); *Aporia bieti* OBERTHÜR, 1884; Tiger Leaping Gorge (6), *Colias fieldi* MÉNÉTRIES, 1855; Tiger Leaping Gorge (6), *Eurema hecabe* (LINNAEUS, 1758); Tiger Leaping Gorge (1), *Pieris canidia* (SPARRMAN, 1768); Tiger Leaping Gorge (1).

Hesperioidae

Hesperiidae: *Aeromachus piceus* LEECH, 1893; Tiger Leaping Gorge (1); *Lobocla bifasciata* (BREMER & GREY, 1853); Tiger Leaping Gorge (2), *Taractrocera flavooides* LEECH, 1893; Tiger leaping Gorge (1); *Thoressa blanchardii* (MABILLE, 1876); Tiger Leaping Gorge (2).

Closing remarks: All the four species, *Aporia bernardi* KOIWAYA, 1989 (Figs 1-2), *Clossiana gong* (OBERTHÜR, 1914) (Figs 3-4), *Cissatsuma albilinea* (RILEY, 1939) (Figs 5-6) and *Polyommatus forresti* BÁLINT, 1993 (Figs 7-8), recorded in Deqin region (Fig. 9) possess obvious Palearctic affinity. It seems that they represent unique phenotypes not known anywhere else in their genera, so they are most probably endemic for the region, where they were discovered. This also suggests that the larger part of the butterfly fauna in the Deqin region is endemic. This fauna supposedly has been an oreal type of origin (VARGA, 1976), arriving and descending from north, where the high altitude alpine grassland is still vast on the Tibetan plateau. Except *C. gong* (OBERTHÜR), which is represented by OBERTHÜR material in our museum, the remaining three butterfly species collected in Deqin turned to be new for our collection.

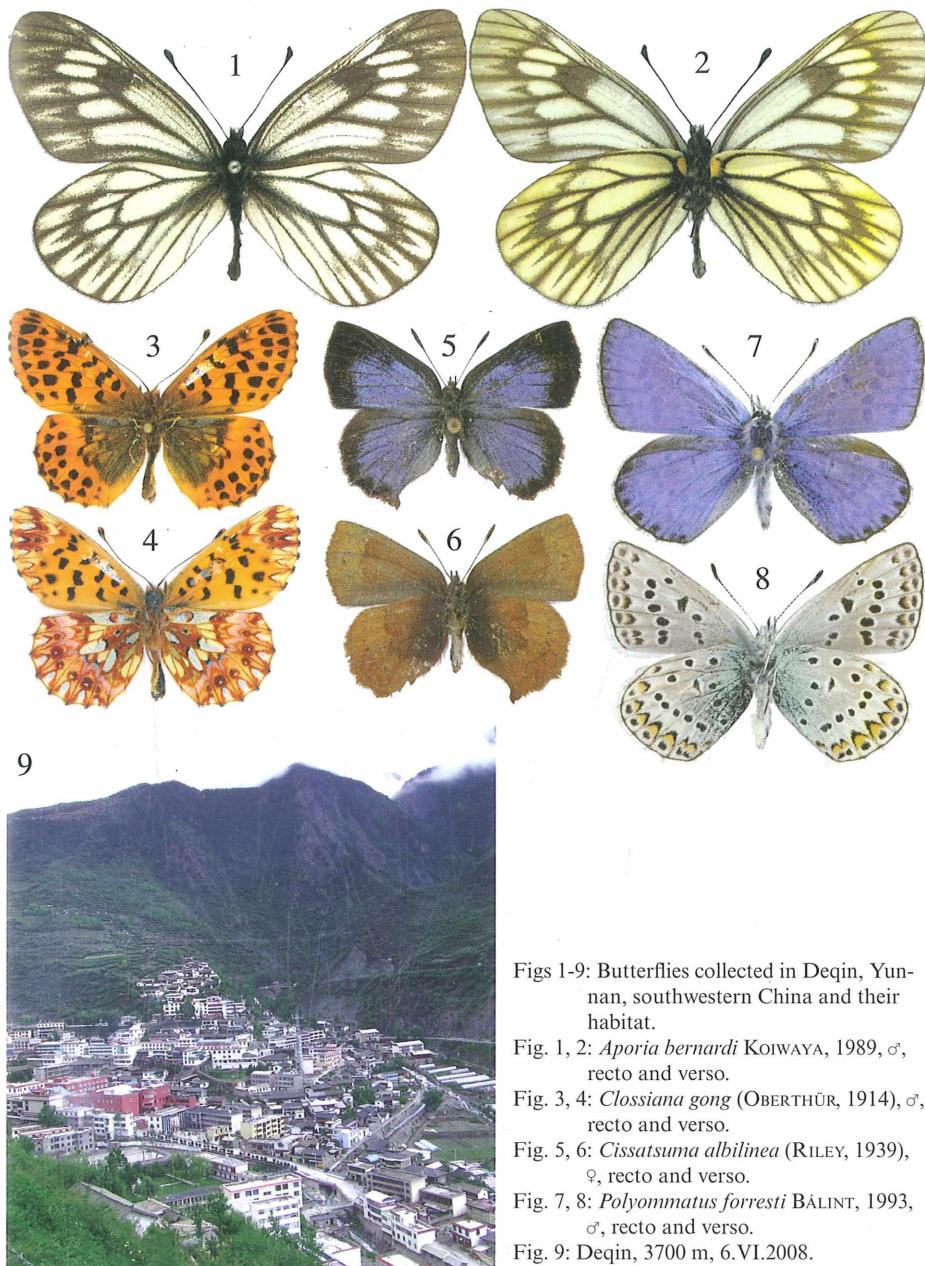
The fauna sampled in Tiger Leaping Gorge has also Palaearctic connection but the species composition shows remarkably Oriental influence. Species, as *Aglaia kashmirensis* (KOLLAR, 1844), *Issoria isaea* GRAY, 1852 and *Melitaea yuenty* OBERTHÜR, 1888, *Pieris canidia* (SPARRMAN, 1768) and *Everes ion* (LEECH, 1891) represent primarily Palaearctic genera. The Oriental influence is remarkable by the remaining species.

The Tiger Leaping Gorge itself is most probably an important migration route for butterflies, as seven species have been recorded, which are known as seasonal or occasional migrants: *Chilades maha* (KOLLAR, 1844), *Lampides boeticus* (LINNAEUS, 1767), *Argyreus hyperbius* (LINNAEUS, 1763), *Parantica melaneus* (CRAMER, 1775), *Papilio xuthus* LINNAEUS, 1760, *Colias fieldi* MÉNÉTRIES, 1855, *Eurema hecabe* (LINNAEUS, 1758).

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Colour plate 5/ Farbtafel 5



Figs 1-9: Butterflies collected in Deqin, Yunnan, southwestern China and their habitat.

Fig. 1, 2: *Aporia bernardi* KOIWAYA, 1989, ♂, recto and verso.

Fig. 3, 4: *Clossiana gong* (OBERTHÜR, 1914), ♂, recto and verso.

Fig. 5, 6: *Cissatsuma albilinea* (RILEY, 1939), ♀, recto and verso.

Fig. 7, 8: *Polyommatus forresti* BÁLINT, 1993, ♂, recto and verso.

Fig. 9: Deqin, 3700 m, 6.VI.2008.